In the claims:

1. (original) A method for detection of an object, the method comprising:

irradiating a target with two electromagnetic wave energy beams, a first beam at a first frequency and a second beam at a second frequency, the first frequency being lower than the second frequency, both beams being polarized in a first direction; and

determining a presence of an object by analyzing reflections of said first and second beams, wherein:

if there is a dominant reflection polarization in said first direction for both the first and second frequencies, then the target is considered not to have the object, and

if there is a dominant reflection polarization in said first direction for only one of the first and second frequencies and a depolarized reflection at the other of the first and second frequencies, then the target is considered to have the object.

2. (original) The method according to claim 1, wherein if there is a dominant reflection polarization in said first direction for the first frequency and a depolarized reflection at the second frequency, then the target is considered to have the object.

3. (currently amended) The method according to claim 1 ~~or claim 2~~, wherein said first beam and second beams are polarized in the vertical direction with respect to the ground.

4. (currently amended) The method according to ~~any of the preceding~~ claims 1~~-3~~, wherein the first and second frequencies are in the range 100 kHz-18 GHz.

5. (currently amended) The method according to ~~any of the preceding~~ claims 1~~-3~~, wherein said first frequency is less than about 1.5 GHz, and said second frequency is greater than about 1.5 GHz.

6. (currently amended) The method according to ~~any of the preceding~~ claims 1~~-3~~, wherein said first frequency is less than or equal to approximately 1 GHz.

7. (currently amended) The method according to ~~any of the preceding~~ claims 1~~-3~~, wherein said second frequency is equal to or greater than approximately 2 GHz.

8. (currently amended) The method according to ~~any of the preceding~~ claims 1, further comprising triggering an alarm if said target is considered to have the object.

9. (currently amended) The method according to ~~any of the preceding~~ claims 1, further comprising sensing a spatial position of the target.

10. (original) A system for detection of an object comprising:

an irradiation device capable of irradiating a target with two electromagnetic wave energy beams, a first beam at a first frequency and a second beam at a second frequency, the

first frequency being lower than the second frequency, both beams being polarized in a first direction; and

a processor capable of determining a presence of an object in the target by analyzing reflections of said first and second beams and comparing the reflections with reflections obtained from a control volume known to have the object therein, wherein the target is considered to have the object if the polarization characteristics of the reflections of the first and second frequencies match the reflections obtained from the control volume within a predefined tolerance.

11. (original) The system according to claim 10, wherein the processor is capable of determining the presence of the object in the target by analyzing reflections of said first and second beams, wherein:

if there is a dominant reflection polarization in said first direction for both the first and second frequencies, then the target is considered not to have the object, and

if there is a dominant reflection polarization in said first direction for only one of the first and second frequencies and a depolarized reflection at the other of the first and second frequencies, then the target is considered to have the object.

12. (original) The system according to claim 11, wherein if there is a dominant reflection polarization in said first direction for the first frequency and a depolarized reflection at the second frequency, then the target is considered to have the object.

13. (currently amended) The system according to any of claims 10-12, wherein said first beam and second beams are polarized in the vertical direction with respect to the ground.

14. (currently amended) The system according to any of the preceding claims 10-13, wherein the first and second frequencies are in the range 100 kHz-18 GHz.

15. (currently amended) The system according to any of the preceding claims 10-13, wherein said first frequency is less than about 1.5 GHz, and said second frequency is greater than about 1.5 GHz.

16. (currently amended) The system according to any of the preceding claims 10-13, wherein said first frequency is less than or equal to approximately 1 GHz.

17. (currently amended) The system according to any of the preceding claims 10-13, wherein said second frequency is equal to or greater than approximately 2 GHz.

18. (currently amended) The system according to any of the preceding claims 10-17, further comprising an alarm in communication with said processor, wherein said alarm is triggered if said target is considered to have the object.